



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,662	11/20/2001	Masao Imaki	027260-478	9051

7590

12/18/2002

Platon N. Mandros, Esq.
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, VA 22313-1404

EXAMINER

AL NAZER, LEITH A

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/988,662

Applicant(s)

IMAKI ET AL.

Examiner

Leith A Al-Nazer

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.


PAUL IP
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities:
 - a. On page 19 (second line from the bottom), the specification states “four photodiodes 16 to 18”. This should be changed to “four photodiodes 16 to 19”.
 - b. On page 25 (two-thirds down the page), the specification states “chord edges 24a and 25b”. This should be changed to read “chord edges 24a and 25a”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2828

4. Claims 1-3 and 13-17, 37, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Villeneuve et al '792.

With respect to claims 1, 3, 37, and 39, Villeneuve teaches a semiconductor laser (112) configured to emit a laser beam, a cylindrical lens (116) configured to allow a laser beam emitted from a semiconductor laser (112) to pass therethrough (figure 5), first and second photodetectors (120 and 122) configured to receive the laser beam passed through the cylindrical lens, and a wavelength filter (118) disposed in an optical path between the semiconductor laser and the first photodetector.

With respect to claim 2, Villeneuve teaches the wavelength filter being disposed in the optical path between the cylindrical lens and the first photo detector (figure 5).

With respect to claims 13-15, Villeneuve teaches a control circuit and a temperature-keeping device (figures 1 and 5; column 3, lines 30-45).

With respect to claim 16, Villeneuve teaches a control circuit configured to control the semiconductor laser according to an intensity of the laser beam received by the second photodetector (figures 1 and 5).

With respect to claim 17, Villeneuve teaches the first and second photodetector being disposed adjacent to each other in a direction parallel to a center axis of the cylindrical lens (figures 1 and 5).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2828

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 4, 5, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Villeneuve et al '792 in view of Greve et al '476.

With respect to claim 4, Greve teaches a birefringent crystal (column 6, lines 15-25). Villeneuve and Greve are analogous art because they are from a similar problem solving area: wavelength monitoring devices. Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the birefringent crystal of Greve with the system as taught or suggested by Villeneuve.

With respect to claim 8, Villeneuve teaches the wavelength filter being disposed in the optical path between the cylindrical lens and the first photodetector (figure 1).

8. Claims 6, 7, and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Villeneuve et al '792 in view of Takahashi '084.

Claim 6 requires the first and second photodetectors have an elongated beam receiving face. Photodetectors come in various shapes, and an elongated photodetector is utilized by Takahashi in a laser system (column 3, lines 60-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the elongated photodetectors of Takahashi with the system as taught or suggested by Villeneuve. The motivation for doing so would have been to detect more of the laser beam, or to adapt the photodetector to an elongated laser beam. Therefore, it would have been obvious to combine Takahashi with the system as taught or suggested by Villeneuve. Claim 6 further requires the elongation direction of each of the first and second photodetectors be oriented perpendicular to a center axis of the cylindrical lens. It would have been obvious to one having ordinary skill in the art at the time the invention was made to take the system taught by Villeneuve and arrange the photodetectors so that their elongated direction be oriented perpendicular to a center axis of the cylindrical lens, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Claim 7 requires the first and second photodetectors have a rectangular beam receiving face. Photodetectors come in various shapes, and a rectangular photodetector is utilized by Takahashi in a laser system (column 3, lines 60-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the elongated photodetectors of Takahashi with the system as taught or suggested by Villeneuve. The motivation for doing so would have been to detect more of the laser beam, or to adapt the photodetector to an elongated laser beam. Therefore, it would have been obvious to combine Takahashi with the system as taught or suggested by Villeneuve. Claim 7 further requires the

Art Unit: 2828

elongation direction of each of the first and second photodetectors be oriented perpendicular to a center axis of the cylindrical lens. It would have been obvious to one having ordinary skill in the art at the time the invention was made to take the system taught by Villeneuve and arrange the photodetectors so that their elongated direction be oriented perpendicular to a center axis of the cylindrical lens, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Claim 30 requires the first and second photodetectors have an elongated beam receiving face and wherein an elongation direction of each of the first and second photodetector is oriented perpendicular to a center axis of the cylindrical lens. Photodetectors come in various shapes, and an elongated photodetector is utilized by Takahashi in a laser system (column 3, lines 60-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the elongated photodetectors of Takahashi with the system as taught or suggested by Villeneuve. The motivation for doing so would have been to detect more of the laser beam, or to adapt the photodetector to an elongated laser beam. Therefore, it would have been obvious to combine Takahashi with the system as taught or suggested by Villeneuve to obtain the invention as specified in claim 30.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Villeneuve et al '792 in view of Noguchi et al '509.

Claim 9 requires a beam shielding plate which has an aperture and which is arranged between the semiconductor laser and the first and second photodetectors. Noguchi teaches a beam shielding plate (46; column 10, lines 5-20). Villeneuve and Noguchi are analogous art

Art Unit: 2828

because they are from a similar problem solving area: laser systems incorporating filters and feedback loops. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the beam shielding plate of Noguchi with the system as taught or suggested by Villeneuve. The motivation for doing so would have been to remove unwanted portions of the laser light beam. Therefore, it would have been obvious to combine Noguchi with Villeneuve to obtain the invention as specified in claim 9.

10. Claims 10-12, 18-29, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Villeneuve et al '792.

Claim 10 requires a positioning member having two plane surfaces that contact the cylindrical lens. Although not explicitly stated in Villeneuve, it is inherent that a positioning member would have to be used to keep the cylindrical lens in place. The shape of the positioning member would be a matter of design choice, and would depend on the system in which it is being utilized.

Claim 12 requires the first and second photodetectors have a plurality of photodiodes. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a plurality of photodiodes in the photodetectors taught by Villeneuve, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Claim 19 requires the beam receiving faces of the first and second photodetectors be inclined relative to a plane perpendicular to an optical axis of the semiconductor laser device. It would have been obvious to one having ordinary skill in the art at the time the invention was

Art Unit: 2828

made to take the system of Villeneuve and incline the first and second photodetectors at an angle to a plane perpendicular to an optical axis of the semiconductor laser device, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

With respect to claim 24, Villeneuve teaches a cylindrical lens (16). Claim 24 requires the cylindrical lens have a cut-out surface. At the time of the invention, it would have been obvious to one having ordinary skill in the art to require the cylindrical lens of Villeneuve have a cut-out surface. The motivation for doing so would have been to provide a flat surface for the cylindrical lens to be attached to the positioning member (37). Therefore, it would have been obvious to provide a cut-out surface on the cylindrical lens to obtain the invention as specified in claim 24.

With respect to claim 27, Villeneuve teaches a beam entering a first cylindrical surface portion, and exiting at a second cylindrical surface portion.

Claim 29 requires an L-shaped positioning member that contacts the cylindrical lens. Although not explicitly stated in Villeneuve, it is inherent that a positioning member would have to be used to keep the cylindrical lens in place. The shape of the positioning member would be a matter of design choice, and would depend on the system in which it is being utilized.

Claim 38 requires the beam receiving face of the first photodetector and the beam receiving face of the second photodetector be placed on different planes from each other. It would have been obvious to one having ordinary skill in the art at the time the invention was made to take the system taught by Villeneuve and arrange the photodetectors as stated in claim

Art Unit: 2828

38, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

11. Claims 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Villeneuve et al '792 in view of Broutin et al '157.

With respect to claim 33, Villeneuve teaches a package wherein the semiconductor laser, the first and second photodetectors, and the wavelength filter are housed therein (column 3, lines 10-15). Claim 33 requires a wedge-shaped window being attached to the package and having a wedge-shaped cross section, wherein the semiconductor laser is configured to further emit another laser beam which is transmitted outside the package through the wedge-shaped window. Broutin discloses such a configuration (figure 1; column 4, lines 1-6). Villeneuve and Broutin are analogous art because they are from a similar problem solving area: wavelength monitoring apparatus for semiconductor lasers. Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the wedged window configuration of Broutin with the system as taught or suggested by Villeneuve.

With respect to claim 34, Broutin teaches another lens (160) being arranged between the semiconductor laser and the wedge-shaped window.

Citation of Pertinent References

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patent further shows the state of the art with respect to wavelength monitoring devices for semiconductor lasers:

Art Unit: 2828

- a. U.S. Patent No. 6,181,717 to Kner et al shows a semiconductor laser system composed of a tunable laser diode, a wavelength selective filter, two photodiodes, and feedback circuitry.


Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A Al-Nazer whose telephone number is 703-305-2717. The examiner can normally be reached on Monday-Friday 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 703-308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3329.

LA
December 10, 2002


PAUL IP
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800